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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,899	09/18/2001	Bror H. Hanson	1641.00005	8597

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Bliss McGlynn & Nolan, P.C.
Suite 600
2075 West Big Beaver Road
Troy, MI 48084

EXAMINER

JOLLEY, KIRSTEN

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/954,899

Applicant(s)

HANSON, BROR H.

Examiner

Kirsten Crockford Jolley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 12, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Election/Restriction***

1. Applicant's election with traverse of Group II, claims 11-16, in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the invention cannot be made by another materially different process such as applying the wax layer as a solid and the Examiner has not presented any evidence to support her position. Further, Applicant argues that the mold-release coating system for a mold surface is made by the method of claims 11-16 as claimed, and that the inventions are related and could all be searched in one search. This is not found persuasive because the considerations used for examining method claims are different than those used for examining product claims. Therefore, there is a burden based on the different issues that arise in examining method versus article claims. Also, product claims are examined based on the properties of the final article produced, not on the method used to create the article. When examining a claim directed to a method of coating, it is necessary to find the process steps of the coating method. When examining claims directed to a coated product, the applicable art includes art directed to Applicant's final coated product produced by any method that would reasonably give that same product. For example, the prior art used to reject the product claims would not necessarily contain the method steps of the coating process claims. As to Applicant's statement that the Examiner has not provided evidence that the claimed mold release coating could be made by applying the wax layer as a solid, the Examiner notes that it is well known in the art that wax coatings may be applied as a solid by rubbing. The Examiner also cites Orlewicz et al. (US 5,362,429) which teaches applying paste wax by hand to the interior of a mold (col. 3 lines 59-

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68) and Vecchia (US 3,941,897) which teaches applying a paraffin or other wax material to a substrate surface by rubbing/frictional transfer. The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The use of trademarks have been noted in this application, for example on pages 6-7, the trademarks "Polywax" and "Aerosil". It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

3. The disclosure is objected to because of the following informalities:

On page 6, line 21, it is unclear what the term "ADC" refers to -- whether "ADC" is a trademarked chemical, or whether it is an acronym for a chemical or composition. While the specification discloses how ADC powder is formed, it does not appear to clarify what "ADC" stands for.

On page 7, lines 16 and 18, and page 8, line 18, it appears that in the terms "low sheer" and "high sheer," "sheer" should be replaced with --shear-- since the specification is discussing shear forces.

Appropriate correction is required.

Double Patenting

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4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 11-12 and 15-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 6, and 8 of U.S. Patent No.

6,291,026 in view of Urena (US 5,294,251). The claims of U.S. Patent No. 6,291,026 teach the limitations of instant claims 11-12 and 15-16, except the claims of U.S. Patent No. 6,291,026 lack a limitation of 7-10 weight percent solids in the solvent base wax coating on the mold surface. Urena is cited for its teaching of a conventional solvent based wax coating useful as a mold release coating that preferably comprises 5-15% by weight wax solids in its coating (col. 4, lines 32-35). It would have been obvious for one having ordinary skill in the art to have modified the method of the claims of U.S. Patent No. 6,291,026 by using Urena's conventional solvent based wax coating as the coating on the mold surface with the expectation of successful results because, since U.S. Patent No. 6,291,026 lacks details of an exemplary solvent base wax material that may be used in its invention, one skilled in the art would have been motivated to look for conventional solvent based wax mold release coatings that may be used, and additionally because Urena teaches the benefit of producing a flexible film that adheres well and has less tendency to peel and crack compared to other wax coating compositions, does not

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require complex mixing equipment or numerous ingredients, and is stable at high temperatures (col. 2, lines 7-16 and col. 3, lines 43-48). Further, it is noted that when using a solvent base wax, the solvent will start to evaporate immediately, therefore drying will inherently occur prior to applying the release powder layer. Also, the wax coating layer thickness is a cause-effective variable depending upon the molding conditions, i.e., temperature and length of time of heating. It is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

6. Claims 11-12 and 15-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 6, and 8-9 of U.S. Patent No. 6,117,495 in view of Urena (US 5,294,251). The claims of U.S. Patent No. 6,117,495 teach the limitations of instant claims 11-12 and 15-16, except the claims of U.S. Patent 6,117,495 lack a limitation of 7-10 weight percent solids in the solvent base wax coating on the mold surface. Urena is cited for its teaching of a conventional solvent based wax coating useful as a mold release coating that preferably comprises 5-15% by weight wax solids in its coating (col. 4, lines 32-35). It would have been obvious for one having ordinary skill in the art to have modified the method of the claims of U.S. Patent No. 6,117,495 by using Urena's conventional solvent based wax coating as the coating on the mold surface with the expectation of successful results because, since U.S. Patent No. 6,117,495 lacks details of an exemplary solvent base wax material that may be used in its invention, one skilled in the art would have been motivated to look for conventional solvent based wax mold release coatings that may be used, and additionally

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because Urena teaches the benefit of producing a flexible film that adheres well and has less tendency to peel and crack compared to other wax coating compositions, does not require complex mixing equipment or numerous ingredients, and is stable at high temperatures (col. 2, lines 7-16 and col. 3, lines 43-48). Further, it is noted that when using a solvent base wax, the solvent will start to evaporate immediately, therefore drying will inherently occur prior to applying the release powder layer. Also, the wax coating layer thickness is a cause-effective variable depending upon the molding conditions, i.e., temperature and length of time of heating. It is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-12 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanson et al. (US 6,117,495) in view of Urena (US 5,294,251).

With respect to claim 11, Hanson et al. discloses a method for forming a mold release coating on a mold surface comprising the steps of applying a barrier coating of a liquid solvent base wax material on the mold surface (for example by spraying), and applying a release powder onto the wax coating layer (col. 5, lines 53-64). Hanson et al. lacks a teaching of the first solvent

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base wax coating material containing about 7 to about 10 weight percent solids. Further, it is noted that Hanson et al. lacks any specific details or exemplary compositions of the solvent base wax coating material that may be used in its invention. One having ordinary skill in the art would have been motivated to look to the prior art for conventional solvent-based wax coating materials that may be used as the mold release coating composition in Hanson et al.'s mold coating process.

Urena discloses a solvent-based microcrystalline wax coating composition that may be used as a mold release coating and may be applied by spraying (see Abstract, col. 4, lines 51-53, and col. 5, lines 22-25). Urena teaches that its solvent-based microcrystalline wax coating comprises about 5-15% wax by weight. It would have been obvious for one having ordinary skill in the art to have used the solvent-based wax coating of Urena as the wax base coat material in Hanson et al.'s mold coating process with the expectation of successful results since Hanson et al. is silent as to the types of wax coatings that are used in its invention, and therefore one skilled in the art would have been motivated to look to prior art coating materials to determine exemplary coating compositions, and additionally because Urena's microcrystalline wax coating composition produces a flexible film that adheres well and has less tendency to peel and crack compared to other wax coating compositions, does not require complex mixing equipment or numerous ingredients, and is stable at high temperatures (col. 2, lines 7-16 and col. 3, lines 43-48).

With respect to the range of percent solids, it is noted that, because the coating composition of Urena only comprises solvents as essential ingredients in addition to the wax, the range of 5-15% by weight wax corresponds to 5-15% by weight solids. Additionally,

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overlapping ranges are *prima facie* evidence of obviousness. It would have been obvious to one having ordinary skill in the art to have selected the portion of Urena's weight percent wax range that corresponds to the claimed range. *In re Malagari*, 184 USPQ 549 (CCPA 1974). Further, it is noted that Urena teaches in Table I (col. 5) that 10 % by weight of microcrystalline wax is used when the wax-containing coating is used as a mold release coating for polystyrene foam. Since Hanson et al. is specifically directed to mold release coating for use in molded polymeric foam parts (col. 1, lines 20-21), it would have been obvious for one having ordinary skill in the art to have used Urena's solvent-based wax coating comprising 10 % by weight microcrystalline wax because Urena discloses successful results when its coating composition is used as a mold release coating for polystyrene foam.

Hanson et al. does not specifically state that substantial drying of its solvent base wax material occurs prior to applying the release powder thereon. It is noted that Hanson et al. states: "Periodically, such as once every ten parts, a normal application of solvent base wax is sprayed on the mold. Just before pouring each part, the release powder is electrostatically deposited on the base coating in the mold, generally 0.5 to 2 g." Therefore it is noted that application of the release powder does not occur immediately after applying the wax coating layer, and additionally is necessarily applied to a dried wax layer in 9 of every 10 applications because Hanson et al. teaches that the wax layer remains on the interior of the mold after a completed molding operation. Further, it is noted that Urena states that its solvent is selected to provide "rapid evaporation" and "quickly evaporates" (col. 3, lines 64-67 and col. 5, lines 1-2), therefore the solvent in the solvent base wax coating would inherently quickly evaporate from the wax coating

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layer after application, thus leaving a substantially dry coating prior to application of the release powder.

With respect to claim 12, Hanson et al. states that the base coat is a “built-up layer of solvent base wax” which necessarily requires that at least two layers of the liquid wax material are applied to the mold surface. It is the Examiner’s position that the wax layers are substantially dried after deposition for the reasons discussed in the paragraph above.

As to claims 14 and 15, Hanson et al. discloses applying the release powder by electrostatic spraying and in an amount in the range of 0.5 to 2 grams (col. 5, lines 61-64). With respect to claim 15, it is noted that overlapping ranges are *prima facie* evidence of obviousness. It would have been obvious to one having ordinary skill in the art to have selected the portion of Hanson et al.’s powder amount range that corresponds to the claimed range. *In re Malagari*, 184 USPQ 549 (CCPA 1974).

Allowable Subject Matter

9. Claims 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or fairly suggest a mold release powder that comprises a plurality of droplets of silicone material which are encapsulated by a substantially thermoplastic powder material. The references of Schutte et al. (US 3,393,155), Iwata et al. (US 4,268,411), and Ohno (US 4,579,779) have been cited as exemplary methods of encapsulating various liquids with silica powder. While Hanson et al. (US 6,117,495) mixes silicon liquid and a thermoplastic powder in a slow speed mixer to form a release powder,

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Hanson et al. lacks a teaching or motivation to perform a step of encapsulating silicon liquid droplets with thermoplastic powder. Further, there is no indication in the Schutte et al., Iwata et al., or Ohno references that their liquid-encapsulating process would be successful using a thermoplastic powder instead of silica as the powder which encapsulates the liquid center.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten Jolley whose telephone number is 703-306-5461. The examiner can normally be reached on Monday to Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193.


Kirsten C. Jolley
Patent Examiner
Technology Center 1700

kcj
September 4, 2003